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Claris buys out StyleWare

Claris Corporation has purchased all the outstanding stock of Houston-based StyleWare, Inc. StyleWare currently publishes eight Apple II products, but it was clearly number nine, *GSWorks* (see last month's issue, page 4.46), that opened the purse at Claris.

Claris has already renamed the product *AppleWorks GS*. Claris said it will work with StyleWare's developers over the next few months to complete development and testing of the program. It expects to ship *AppleWorks GS* before the end of the year. StyleWare's operations will be moved from Houston to Claris' California headquarters following the completion of *AppleWorks GS*.

StyleWare was founded by Kevin Harvey, Dave Macdonald, and Alex Perelberg in August 1985. It shipped its first product, *MultiScribe*, a graphics-based word-processor for the Apple IIe and IIc, in April 1986. The company grew from three employees in 1986 to 35 employees in 1988. Sales volume usually doubled every four months. StyleWare has shipped more than 45,000 copies of *MultiScribe* and 40,000 copies of a later IIgs version of the program, *MultiScribe GS*.

Claris said it will sell *MultiScribe GS* under its own label, but has not yet made a decision on the fate of StyleWare's other products—the IIe/IIc version of *MultiScribe* and its associated utilities *PictureManager, Desk Accessories,* and eight *Fontpaks;* and the IIgs programs *TopDraw, DeskWorks,* and *Font Library*. They could eventually be sold under the Claris label, be sold outright to another software company, or just disappear from the market, like *Apple Writer*.

Kevin Harvey, formerly StyleWare's president and head programmer, is now Group Product Manager for the Apple II at Claris. He will assume responsibility for all Apple II products at Claris, including AppleWorks.

At an online conference on GEnie July 19, Harvey said that the StyleWare acquisition shows that Claris *does* care about the Apple II. Claris intends to support and enhance both AppleWorks programs, Harvey said. "Claris is a very new company and putting a GS development team together would be impossible for them. They were waiting for an acquisition that would give them a product and team that would be significant," Harvey said. StyleWare's team of ten Apple II programmers will accompany Harvey to Claris. This means Claris is now positioned to become a major Apple II software company in terms of development as well as in terms of revenue, and this should be good news for the Apple II community.

As mentioned here last month, *AppleWorks GS* takes the best part of AppleWorks—an integrated desktop—and mixes it with Apple's desktop interface. In addition to a word processor, database, and spreadsheet, *AppleWorks GS* will include a graphic draw/paint module, a page layout (desktop publishing) module, and a telecommunications module. It will be priced at $249.

Incidentally, according to Claris, the Apple IIgs is the number one selling computer in retail stores. Half the computers (all brands) being bought for K-12 today are Apple IIgs models, Claris says, as are 70 per cent of all sales in the Apple Educator Buy Program.

Claris also divulged that AppleWorks continues to hold a 25 per cent share of the market for integrated software packages (all personal computers), but now plays second fiddle in this category to the 30 per cent share held by *Microsoft-Works* (an AppleWorks derivative for Macintoshes).

Miscellanea

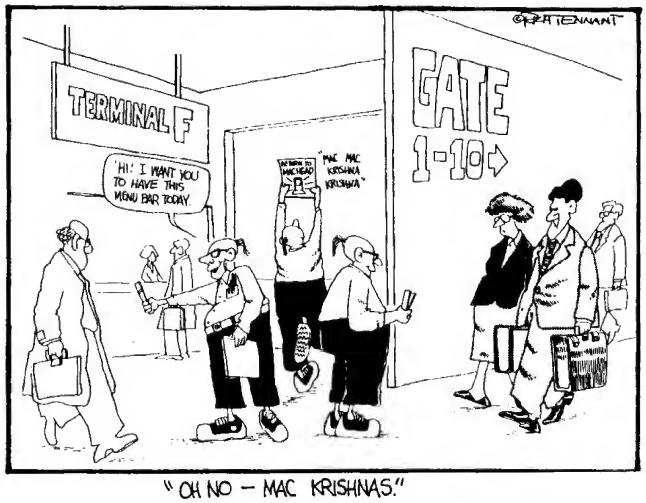
Apple has diagnosed and fixed the Apple IIgs disappearing disk drive problem (August 1987, page 3.54; September 1987, page 3.61). Symptoms of this problem are that one or more disk drives attached to a IIgs will turn themselves on for no apparent reason and stay on. Pressing control-reset stops the drive, but, after that, attempting to access any Apple 3.5 drives on the SmartPort daisy chain will return a NO DEVICE CONNECTED message. The computer must be turned off and back on to recover access to the drive. No permanent damage occurs to the drive or the disk inside it.

The problem occurs *only* with Apple 3.5 drives (not UniDisk 3.5) and *only* if 5.25 drives are connected to the SmartPort daisy chain. If you don't use 5.25 drives, or if you have them connected to a disk controller card in one of the slots of your IIgs, or if you have IIe/IIc compatible UniDisk 3.5s, you will never see this problem.

Apple's June 1988 service notice update (page 8.6.1) instructs dealers to fix the problem on affected units at no cost to the owner. The solution is to put a Revision B Daisy Chain Interface Board inside the Apple 3.5 drive. The Revision B board can be identified by the part number CDX 1085B on the gate array component located on the side of the board opposite the cable.

Apple has also discovered that some of its own IIgs memory expansion cards made during the last two weeks of 1987 and the first week of 1988 have RAM chips that don't work fast enough. This can cause the IIgs to lock up or exhibit other strange problems. The boards with problems have a date code of "8751", "8752", or "8801" silkscreened on them and they use chips manufactured by NEC in the UK. Dealers haven't yet been notified of this problem, but notification is in the works.

The same problems often occur when dealers or users add third-party RAM chips to Apple IIgs Memory Expansion Cards, Apple reports. RAM chips for these cards must have a speed of 150 nanoseconds or faster (indicated by an "-15" or a lower number appended to the end of the part number), a configuration of 256K x 1, and CAS before RAS refresh. We've gotten lists from Apple and from Checkmate Technology of chips that satisfy these requirements.



"OH NO — MAC KRISHNAS."

Combining these two and adding a little personal experience we come up with the following:

Vendor	IIgs compatible parts
Fujitsu	MB81256, MB81257
Hitachi	HM50256, HM50257
Micron Technology	MT1259
NEC	UPD41256C *
OKI	M41256
Samsung	KM41256, KM41257

* NEC chips with a process code starting with "K", "E", or "P" aren't CAS before RAS.

This is a conservative list. There are also chips from other manufacturers that satisfy the requirements.

Virus news: We've received and disassembled a copy of a virus that attacks ProDOS 8 system files. The virus calls itself *CyberAIDS*. It's a little buggy and far from "commercial quality," but is dangerous nonetheless. We have no idea how widely distributed it is.

When a SYS file containing the *CyberAIDS* virus is executed, the disk drive will turn off and then back on again. While the drive spins the second time, *CyberAids* tries to replicate itself inside all of the online SYS files that are in root directories. It doesn't look in subdirectories, it doesn't (can't really) mess with write-protected disks, it doesn't attack locked SYS files, and it doesn't attack the PRODOS file. *CyberAIDS* also updates a counter stored in the last byte of the first block of the disk directory. When this counter reaches 16, *CyberAIDS* writes $FFs through the root directory of all online volumes and puts a message describing what's happening on the screen.

If this happens to you, don't panic. The program *Bag of Tricks 2*, by Quality Software, can recover your directory ($40, 21610 Lassen, #7, Chatsworth, CA 91311 818-709-1721). MR.FIXIT, which is one of the items in Glen Bredon's *ProSEL* package, also can recover all the subdirectories (and what's in them) from directories damaged by *CyberAIDS*. Unfortunately, MR.FIXIT cannot recover files other than subdirectories.

The following program can identify SYS files that have been infected by *CyberAIDS:*

```
10 HOME : PRINT "CyberAIDS Detection Program"
20 PRINT
30 PRINT "Enter the name of the next SYS file to be checked."
40 INPUT F$ : IF LEN(F$)=0 THEN END
50 PRINT CHR$(4);"BLOAD";F$;"A$2000,L3,B3,TSYS"
60 DETECT=1
70 FOR ADR=8192 TO 8194
80  IF PEEK(ADR) <> 19 THEN DETECT=0
90 NEXT
100 IF DETECT THEN PRINT "This SYS file appears infected."
110 IF NOT DETECT THEN PRINT "This SYS file appears to be OK."
120 GOTO 20
```

If you find any SYS files that are infected, simply delete them and replace them with uninfected backups. You might also like to change the last byte of the first block of the root directory (block 2), which is normally unused, back to zero.

Apple was in the process of releasing a new IIgs System Disk (V 3.2) during July. Software developers received copies of the disk mid-month.

Whether you have a IIgs or an older Apple, you'll want at least some of the files on this disk. There are new versions of ProDOS 8 (1.6), ProDOS 16 (1.6), Basic.system (1.2), Finder (1.1), and System Utilities (3.1). The new version of ProDOS 16 isn't *the* new (16-bit) version of ProDOS 16 we're all waiting for. However, it does have modifications that allow it to boot over an AppleTalk network and to boot faster from any device.

Here's a complete listing of the contents of the new disk:

Filename	Blocks	Type	Modified	Created	Length	Subtype
PRODOS	35	SYS	14-JUN-88	14-JUN-88	$4300	$0000
SYSTEM	1	DIR	24-JUN-88	23-JUN-88	$200	$0000
..P8	32	SYS	13-JUN-88	13-JUN-88	$3C7D	$0000
..P16	76	$F9	13-JUN-88	13-JUN-88	$94BE	$0000
..START	1	S16	7-JUN-88	7-JUN-88	$111	$0100
..SYSTEM.SETUP	1	DIR	21-JUN-88	16-FEB-88	$200	$0000
....TOOL.SETUP	1	$B6	21-JUN-88	21-JUN-88	$129	$0000
....TS1	61	$BC	21-JUN-88	21-JUN-88	$77A9	$0000
....TS2	28	$BC	21-JUN-88	21-JUN-88	$3548	$0000
....ATSETUP	1	$B6	16-JUN-88	22-APR-88	$1F9	$0000
....ATINIT	1	$E2	16-JUN-88	16-JUN-88	$86	$0000
....ATPATCH	14	$BC	16-JUN-88	20-APR-88	$19E1	$0000
....ATSTART	3	$BC	16-JUN-88	21-APR-88	$20D	$0000
....PFILOAD	46	$BC	21-JUN-88	22-APR-88	$58E9	$0000
....SPLOAD	23	$BC	16-JUN-88	20-APR-88	$2A5A	$0000
....ATROM	22	$BC	16-JUN-88	20-APR-88	$28AE	$0000
....ATRESPONDER	17	$BC	13-JUN-88	13-JUN-88	$1EE9	$0000
..TOOLS	2	DIR	24-JUN-88	16-FEB-88	$400	$0000
....TOOL014	40	TOL	16-JUN-88	16-JUN-88	$4C0E	$0100
....TOOL015	20	TOL	16-JUN-88	16-JUN-88	$2528	$0100
....TOOL016	18	TOL	16-JUN-88	16-JUN-88	$212E	$0100
....TOOL018	33	TOL	17-JUN-88	17-JUN-88	$3E3E	$0000
....TOOL019	25	TOL	24-JUN-88	24-JUN-88	$2E90	$0000
....TOOL020	15	TOL	17-JUN-88	17-JUN-88	$1BAE	$0000
....TOOL021	26	TOL	17-JUN-88	17-JUN-88	$3054	$0000
....TOOL022	7	TOL	17-JUN-88	17-JUN-88	$BC6	$0000
....TOOL023	24	TOL	17-JUN-88	17-JUN-88	$2CFB	$0000
....TOOL025	12	TOL	17-JUN-88	17-JUN-88	$15FC	$0000
....TOOL026	9	TOL	21-JUN-88	21-JUN-88	$F81	$0000
....TOOL027	27	TOL	17-JUN-88	17-JUN-88	$32ED	$0000
....TOOL028	8	TOL	16-JUN-88	16-JUN-88	$CCC	$0100
....TOOL029	5	TOL	16-JUN-88	16-JUN-88	$7AE	$0000
....TOOL032	15	TOL	17-JUN-88	17-JUN-88	$1A84	$0000
..DESK.ACCS	1	DIR	23-JUN-88	23-JUN-88	$200	$0000
..DRIVERS	1	DIR	24-JUN-88	16-FEB-88	$200	$0000
....IMAGEWRITER	45	$BB	24-JUN-88	24-JUN-88	$5787	$0001
....IMAGEWRITER.LQ	45	$BB	24-JUN-88	24-JUN-88	$577F	$0001
....LASERWRITER	73	$BB	17-JUN-88	17-JUN-88	$8F76	$0001
....PRINTER	5	$BB	17-JUN-88	17-JUN-88	$72D	$0002
....MODEM	5	$BB	17-JUN-88	17-JUN-88	$762	$0002
....APPLETALK	7	$BB	8-FEB-88	8-FEB-88	$AB6	$0003
....APPLE.MIDI	4	$BB	17-JUN-88	17-JUN-88	$450	$0300
....CARD6850.MIDI	4	$BB	17-JUN-88	17-JUN-88	$412	$0300
..FONTS	1	DIR	23-FEB-88	16-FEB-88	$200	$0000
....COURIER.10	6	FON	27-NOV-86	5-MAY-87	$9B2	$0000
....COURIER.12	7	FON	27-NOV-86	5-MAY-87	$AF2	$0000
....GENEVA.10	6	FON	27-NOV-86	5-MAY-87	$8AD	$0000
....GENEVA.12	7	FON	27-NOV-86	5-MAY-87	$AC3	$0000
....HELVETICA.10	6	FON	27-NOV-86	7-MAY-87	$972	$0000
....HELVETICA.12	7	FON	27-NOV-86	7-MAY-87	$BB8	$0000
....SHASTON.16	12	FON	22-APR-87	22-APR-87	$1556	$0000
....TIMES.10	6	FON	27-NOV-86	11-MAY-87	$96E	$0000
....TIMES.12	7	FON	27-NOV-86	11-MAY-87	$B08	$0000
....VENICE.14	9	FON	27-NOV-86	11-MAY-87	$E29	$0000
....FONT.LISTS	3	BIN	17-FEB-88	17-FEB-88	$221	A=$0000
..FINDER	102	S16	1-MAR-88	1-MAR-88	$C9B8	$0100
..LAUNCHER	12	S16	16-JUN-88	16-JUN-88	$146C	$0100
SYS.UTILS	1	DIR	3-MAR-88	23-JUL-87	$200	$0000
..SYSUTIL.SYSTEM	3	SYS	3-MAR-88	3-MAR-88	$30E	$B800
..UTIL.0	87	BIN	3-MAR-88	3-MAR-88	$AB00	A=$0900
..UTIL.1	62	BIN	3-MAR-88	3-MAR-88	$79B0	A=$0E00
..FASTCOPY.SYSTEM	40	SYS	17-JUL-87	17-JUL-87	$4DC6	$2000
BASIC.SYSTEM	21	SYS	14-DEC-87	14-DEC-87	$2800	$0000
BASIC.LAUNCHER	3	SYS	12-JUL-87	12-JUL-87	$393	$0800
APPLETALK	1	DIR	14-JUN-88	23-JUL-87	$200	$0000
..CHOOSER.II	3	SYS	15-APR-88	15-APR-88	$3DF	$0000
..CHOOSER.0	61	BIN	13-JUN-88	13-JUN-88	$77E2	A=$0800
..CHOOSER1.OVR	4	NON	13-JUN-88	13-JUN-88	$5F4	$0000
..CHOOSER2.OVR	5	NON	13-JUN-88	13-JUN-88	$7C0	$0000
..CHOOSER3.OVR	6	NON	13-JUN-88	13-JUN-88	$8F4	$0000
..CHOOSER4.OVR	7	NON	13-JUN-88	13-JUN-88	$AD8	$0000
..CHOOSER5.OVR	8	NON	13-JUN-88	13-JUN-88	$CC8	$0000
..MTXABS.0	31	BIN	28-JUL-87	16-APR-87	$3BDE	A=$0800
..IWEM	61	TXT	18-APR-88	18-APR-88	$7715	R=$0000

```
..NAMER.II          3  SYS  15-APR-88  15-APR-88    $3C7   $0000
..NAMER.0          61  BIN  14-JUN-88  14-JUN-88   $7650 A=$0800
ICONS               1  DIR  26-FEB-88  26-FEB-88.   $200   $0000
..FINDER.ICONS     22  $CA   7-JUL-87   7-JUL-87   $2932   $0000
COPY.ME .           1  BAS  16-JUL-87  16-JUL-87     $24   $0801

Blocks free:  71      Blocks used: 1529      Total blocks: 1600

Number of standard files:  70      Number of subdirectories:  9
```

According to documents sent to developers, the changes to Basic.system fixed a bug that concerned the number of entries in a directory and a bug related to pressing control-S to stop a catalog display. No mention is made of a fix to the well-documented CHAIN bug.

Changes to ProDOS 8 include some interrupt-handling fixes and a POSNERR if the 32 meg limit is exceeded.

In the SYSTEM/SYSTEM.SETUP subdirectory, the last eight files have to do with AppleTalk networks. You can delete them if you don't use AppleTalk. The TOOL.SETUP file now checks the IIgs ROM version number and, depending on the result, executes either TS1 (original ROM) or TS2 (ROM V 1.1). This change saves between eight and ten seconds of boot time, the documents report. Being able to delete one or the other also saves a nice chunk of disk space. The old file SOUND.INIT has been included inside the new TS files and is no longer needed.

Many of the files in the TOOLS subdirectory have had bug fixes and several new tools are being released for the first time. These include the ACE (Audio Compression and Expansion) Tool Set, a set of routines for compressing and decompressing digitized sounds; the MIDI tool set, which, in conjunction with a MIDI interface and a newly supplied serial port driver, allows applications to interface with MIDI equipment; the Note Sequencer, which helps with MIDI recording and playback; and the Note Synthesizer, which generates musical notes and sounds.

The DRIVERS subdirectory now includes two MIDI drivers and an IMAGEWRITER.LQ driver. Unfortunately, the latter does nothing but allow printing to an LQ over an AppleTalk network. It does not support the higher-resolution printing that's possible with an ImageWriter LQ. Meanwhile, the IMAGEWRITER driver has been completely rewritten. It is now faster and fixes a number of bugs. The LASERWRITER driver has also been rewritten. The file called LASERPREP, which appeared on System Disk 3.1, is no longer necessary, which makes this new driver compatible with all Macintosh LaserWriter drivers.

A file called FONT.LISTS was added to the FONTS subdirectory. Older versions of the Font Manager started up by opening every font on the system disk to collect information on what was available. All of this information is now contained in FONT.LISTS—the time consuming opening of each font file will occur only if the FONT.LIST and the FONT subdirectory have discrepancies in files or in file creation/modification dates and times.

The FINDER was changed so that it won't crash if memory gets compacted.

Macintosh system software has been distributed by the national online networks, under license from Apple, for several years. It has been a sore point with many of us that similar licenses for Apple II system software weren't available. However, with the help of old and new Apple II champions inside Apple, that has changed. Consequently, you'll be able to get a copy of the entire System Disk 3.2, or selected parts of it, from your favorite online service. You'll also be able to get upgrades from your dealer. The actual date the online services and dealers would have the disks wasn't known as we went to press.

It looks like Hypercard for the IIgs will be here sooner than I thought. Look for a IIgs Hypercard-like package from Roger Wagner Publishing between now and the September AppleFest.

Those of you who own RWP's Merlin assembler ought to send the company $15 + $2 shipping for *Merlin Extras*, a new disk of goodies that includes *real* toolbox macros for the IIgs, a program that will search through source code files looking for a specific label, a program that will make sure your version of Merlin contains all the latest patches, and a list of corrections to Wagner's book *Apple IIgs Machine Language for Beginners* (Roger Wagner Publishing Co, 1050 Pioneer Way, Suite P, El Cajon, CA 92020, 619-442-0522).

And in the local news...the Shawnee Mission school district wants to be one of the most technologically advanced school districts in the nation, according to an article in the July 13 *Overland Park Sun* (page 3A). The Shawnee Mission district embraces a number of mostly wealthy suburban cities in the southwestern quadrant of the Kansas City metropolitan area. It has about 30,000 students in 42 elementary schools, seven middle schools, and five high schools. The district has an annual budget of slightly over $100 million.

The district has just published a long-range plan called "Technology in Education: A Bold Initiative for the 21st Century". The plan is the result of a year-long study by a nine-member team composed of school administrators. What's surprising about the plan is that much of it is all about putting computers on teachers' and administrators' desks. While the plan does call for additional computers for student use, the bulk of it calls for:

—a testing system that would automatically score and record grades.
—providing teachers with access to a central database of curriculum objectives, teaching strategies, resources, learning activities, and tests.
—a financial management system for budgeting, payroll, bill paying, and inventory control.
—a human resources data bank.
—an information service between district buildings that would improve scheduling, planning, communication, and evaluation.

How can Apple expect to sell Apple IIs to a district like this without evangelizing the Apple II as a computer suitable for *both* education and the office?

By the way, if you think IBM has given on up the education market, IBM "lent talent and expertise at no cost to the district" for creating the report. The district's superintendent, Raj Chopra, estimated the value of IBM's services at $200,000. Thomas R. Sprott, vice president and area manager of IBM, said no other school district has attempted such an ambitious project.

Apple is continuing its corporate restructuring. The newest changes are the establishment of a Customer Satisfaction organization, which is responsible for customer relationships—including distribution, customer service, and customer support. The organization will be led by a manager to be named later, who will report to Allan Z. Loren, vice-president, Apple Integrated Services. Loren is also responsible for Apple's internal computer systems (called Information Systems & Technology) and reports to Del Yocam.

In addition, Apple's product marketing and market intelligence functions, previously part of the Apple USA marketing group headed by Charles Boesenberg, have been moved under Jean-Louis Gassee, whose group is now called Research, Development, and Product Marketing.

"Product marketing" has to do with keeping the people who design Apples, the people who sell Apples, and the people who use Apples all tuned to the same channel. The job isn't easy. The key to success is keeping in touch with the users. They're the ones who ultimately decide the wavelength. The designers and the sellers have a role in telling the users what new things are possible. And they have to take risks on new technologies that users don't know about. But, in the end, it's the customer who decides whether the new technology will succeed or fail.

Apple historically has been more lucky than good at Apple II product marketing. The people who design Apple IIs and people who use Apple IIs have been on pretty much the same wavelength, but over the last ten years Apple has put its major design emphasis elsewhere. Meanwhile, the people who sell Apple IIs have generally been out of touch and have abandoned segment after segment of users long before the users were ready to abandon the Apple II.

But things are looking up for the II. Earlier this year, Apple persuaded its Australian Apple II Marketing Manager, Peter Sandys, to move to California. Sandys bought his first computer in 1979—a 4K Tandy. He later moved up to a Commodore Pet. He ran a computer dealership in Sydney for three years, worked for awhile as Microsoft's Australian Marketing Manager, and in early 1984 was hired by Apple as its Macintosh Marketing Manager in Australia. Nonetheless, Sandys' first job at Apple was to introduce the Apple IIc to Australia.

As Macintosh Marketing Manager, in fact, Sandys introduced all the Apple II products that followed the IIc—disk drives, memory cards, monitors, and the Apple IIgs—to the Australian market. While we've gotten used to seeing Apple's talented Apple II people move over to

the Macintosh, seeing talented Macintosh people cross over to the Apple II is rare indeed. Sandys explained how it happened during a seminar at the Arizona Apple Users Group's Apple Fiesta '88 in June:

Anybody with any brains wouldn't take our Apple II product management job, you know, because "the product's dying." We couldn't find anybody to take that job. So basically I realized the only way I was going to get any help was to take on the Apple II job myself and find another Macintosh manager—which took a week.

My personal philosophy is that the Apple II is a ***challenge****. Anybody can be a successful Macintosh product manager. The product's on the rise, it's new, it gets a lot of attention—but as a career challenge, as a pure marketing challenge, if you can take a product that's ten years old and pump life back into it, that will say more about your marketing skills than anything I've ever done. So I started sending memos back to Cupertino trying to get something going on the Apple II. Why aren't we doing this, why aren't we doing that? They liked what I was saying so they offered me a position over here.*

I believe that Apple is very committed to the Apple II. And that is from someone who's seen the inside. There ***has*** *been a turn around in the company. The company is very strongly trying to focus back on the Apple II. It will never be like in its heyday. It will never be as much a focus as Macintosh has got. But it's the reason I came to America. I looked at it very carefully. I've got three young kids and a family—I've had to grab all those people and bring them over here and resettle in another country. I wouldn't have done that unless I firmly believed that Apple was 100 per cent behind the Apple II....*

I don't think any company would be very smart to try to limit one of its products. That's a rumor that goes around a lot about Apple—that we deliberately are limiting the IIgs or the II products to make the Mac look good. I think that's a fallacy....put things in perspective. The Apple II represents a billion dollars a year coming in to Apple. That's 25 per cent of our revenue coming out of Apple IIs. You take 1 billion dollars—that puts you between Prime and Tandy on the Fortune 500—just for Apple II alone. So the Apple II is a very, very important part of our business....

The Apple II is not going to go away. The Apple II will survive and will continue and maybe in some ways it will continue in spite of Apple. But it will continue and we'll keep developing that product line.

Sandys will be a guest of GEnie at an Apple II RoundTable Tuesday night conference on August 16, 9:30 Eastern. If you have any questions or comments about the marketing of the Apple II, this will be a good chance to make sure Apple knows what they are.

Besides an accessible Apple II manager who likes to play with computers, the other thing Apple II product marketing suddenly has going for it is the shadow of Jean-Louis Gassee's wings. Like many of us, Gassee believes Apple has built too many marketing fences around the Apple II. "I believe we should be even more open and let customers and developers decide what's best for them," Gassee said at online conference on GEnie July 12. "On the other hand, we are often pressed to give 'clear' differentiation messages as to our two product lines. The bottom line of my opinion is that we perhaps have to be less rigid in segmenting product lines and market segments."

Ask (or tell) Uncle DOS

Swinging between uses

I read your interview with Del Yocam in the July issue. The discussion only confirmed my opinion that we are witnessing the slow death of the Apple II. It is a nice thought that the Apple II should be directed toward education. I would imagine that this strategy will work for awhile.

In the end, however, how many parents will buy an Apple II for a child only? I submit that the majority of people buy a computer for a mix of reasons, including education, word processing, games, and, for a lot of people, the ability to bring work home.

When I bought my Apple IIe about four years ago it was the only machine capable of swinging between all of these uses at a reasonable price. At this time, however, it is still only acceptable for games, education, and word processing. As far as I can tell, the Apple II environment is at least a generation behind in computer languages, spreadsheets, and data bases. Furthermore, in terms of computing power, it has become a very expensive alternative.

Thus, when I finally purchased another computer, I was left with the choice of a Mac or MS-DOS machine. I purchased a 10 MHz AT clone with printer and hard disk for under $1,600. If I had purchased a similarly equipped Apple IIgs, it probably would have been at least $500 more.

I have always enjoyed your newsletter, but now have no reason to renew. How about starting one for the MS-DOS world?

Alan B. Levy
Randolph, N.J.

Based on my interview with Yocam, I believe his response would be that there isn't an identifiable "home market", so Apple has chosen to aim the Apple II at the ***institutional*** *education market. He sees the education-at-home market as only a small part of this.*

Traditionally speaking, the Apple II's essential characteristic has been its flexibility—its capability to swing between uses. At Apple's developer dinner before last fall's AppleFest, John Sculley himself reported that Apple's research shows that Apple II owners tend to use and be familiar with far more software packages than either Macintosh or MS-DOS owners. MS-DOS machines, in particular, are often dedicated to a single application.

Apple stopped marketing the Apple II's flexibility some time ago—even though AppleWorks provides an excellent flexibility metaphor for awakening the marketplace. We can only hope that the new marketing faces at Apple understand the Apple II's benefits better than the old faces did. The Apple II will not last long as a dedicated "student" machine. Teachers and administrators are not interested in learning how to use one computer for themselves and another for their students.

(My goal is to live long enough to be writing the last Apple II publication in existence. Since I can barely keep up with the Apple II and since I refuse to write about what I don't know about, I have a hard time imagining myself writing an MS-DOS newsletter. On the other hand, I try to emulate the flexibility of the Apple II, so there's really no way to predict what might happen as the months go by.)

The networked GS

The best thing that has happened to the Apple II recently is networking with AppleShare. *GSWorks* may also boost the popularity of the IIgs, but networking will open up niches in every world from home to university to business. I can envision the IIgs in both educational and business AppleShare and TOPS networks as an inexpensive, smart workstation; an alternative to buying an entire Macintosh II for each node. This will be even more possible if rumors come true that a new version of ProDOS 16 will be compatible with the Macintosh's HFS file format.

I'm looking at the Apple II from the perspective of the computer science department at a major research university. This place has everything—Project Andrew, IBM-Ethernet and AppleTalk boxes everywhere, and so on. Presently, most Macs are used simply as LaserWriter machines; the jobs they perform could be performed just as easily by Apple IIs with the one exception of page layout.

Bigger and more ambitious applications require much more memory and storage than the standard Mac provides. The hope here is to make a Mac II run efficiently under the Project Andrew Unix environment, which will demand 6 megs minimum of RAM. The incentive is that such a fully loaded Mac would still be less expensive than the other machines typically required to run this network. If the Mac takes off like this—and it will if the university computer science students like the ones here have a say in it, and they do—there will remain a mammoth place for the Apple IIgs to fit in.

Apple IIs have been reliable and personal machines and they deserve much wider recognition than they have now. Further, it seems that the most innovative software has always appeared on the II first, such as *VisiCalc;* AppleWork's integrated design, which inspired *Microsoft Works;* and now *GS-Works.* And I am ever more impressed by the way an 8-bit IIc can do the things it does when running *Ultima 5* or the latest *Bard's Tale.* The lesser power of the 6502 has forced programmers to utilize Apple's hardware and firmware design to the utmost, producing some results that put 68000-based machines to shame. Macintoshes are good machines only if they have the memory and storage to support them. This leaves a great

Other interesting tidbits from the Gassee conference (the full transcript is available in the A2 library on GEnie, search for the keyword GASSEE):

On where chip development is headed for the next five years: *There are two interesting directions at this time: first, the ZIP Chip represents the kind of improvements that can be made to the original processor without too much disturbance to the existing software applications. Secondly, there are vendors interested in supplying 65816s at a higher speed. Other than that we have no intention to change the instruction set again.*

On whether IIe and IIc users will be able to take advantage of large storage devices (CD-ROM, etc.) after Apple releases its true ProDOS 16: *Right now we are concentrating on making improvements to the 16-bit world as so eloquently requested by everyone. But there will be some unexpected goodies for everyone, including the 8-bit side of the Apple II line.*

On whether there are enough people inside Apple using Apple IIs: *That is a valid concern and you might want to know that we are developing more Apple II CPUs and Operating System software than at any time in Apple's history, so* ***someone*** *must be banging on the product somewhere.*

On the "this is progress?" effect, that is, the larger and faster the computer, the larger and slower the software: *I agree this is a problem and you better believe we don't want that to stay so. First, we will speed the IIgs program loading time in a future release of the system. Secondly, in a more distant future, we have to make sure that programming nice applications does not become a superhuman task as we make the computer bigger and richer (more peripherals and media)....The general idea would be object-oriented programming, both for normal people and for real men as well....Thirdly, we will increase peripheral performance.*

On how Apple plans to fight off the invasion of cheap IBM clones from the Home/Education market: *(Telling you) that would get me into trouble as I currently do not hold the job of VP of Pre-Announcements. But we have no intention to just watch. We'll fight with hardware, software and networks!*

On the concern that, with Apple marketing the II as useful *only* in K-12, developers aren't interested and can't get capital for Apple II programs—that even though the education plus work-at-home connection is a natural market for the II, Apple has turned that role over to the Mac Plus: *I realize that you reflect a wide-spread perception and I agree that we have the potential in the Apple II (c, e and gs) for a combination learning and work at home. I'll convey your comments as I believe they are right on the mark.*

On *The Information Exchange* (a manual Apple provides to certified third-party developers) drawing too hard a line between Macintosh and Apple II applications: *Agreed and this is my bailiwick.*

On whether his new duties as head of Product Marketing portends any changes in Apple II marketing strategies?: *I intend, precisely, to avoid excessive rigidity in positioning. I believe we're better off trusting the fact we are dealing with a* ***very*** *intelligent marketplace, otherwise we would not be here.*

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deal of room for the IIgs to establish itself; in the most ambitious case, as a color workstation for Macintosh networks.

I would like to see Apple place the IIgs under the Apple University Consortium. Presently, I can buy a two-drive Mac SE for less money than an equally equipped IIgs. This frustrates me to no end and is my biggest negative argument when considering whether Apple is truly supporting the II line.

The most limiting factor of the IIgs in the eyes of *this* particular Computer Science Department is the machine's speed (especially considering that even 18 MHz RISC processors aren't fast enough for what they want to do with computers—however, these same people believe that the "personal computer" itself is obsolete; their only interest is in a better "workstation"). The other thing the IIgs needs to compete is storage. Apple doesn't bundle the IIgs with a hard drive (Macs can't live without one) and have never given IIs enough memory.

Jeremy Mereness
Pittsburgh, Pa.

IIs in education

Please don't be so hard on Apple IIs in education. If we don't do something to rejuvenate education soon, the business world will die, and *no* computer will survive. Of *course* Apple's prices are too high and we should support all efforts to reduce them (a la Central Point).

But if all our students learn on Apple IIs, they'll be comfortable producing on them at home and at work as they grow up. I sense a resistance on your part to gain educational savvy. You are too valuable to us to become a pariah—grow with (and hopefully *ahead* of) Apple, as you have to date.

Ken Franklin
Puyallup, Wash.

You misread me if you think I'm resisting moving towards educational markets. What I'm resisting is moving away from the home and small business markets. Steve Wozniak didn't design the Apple II to be a student-computer, he designed it to be an inexpensive general-purpose computer—a ***personal*** *computer. Students and teachers are people, too, and I fully support their use of the Apple II.*

Rethinking hard disks (cont.)

Why are hard drives for the Apple II so expensive? I can get IBM-type hard drives for less than half the cost of the cheapest available Apple-type drive.

Jim Dorigatti
Dover, Del.

As another hard disk option, I've seen ads for Apple-compatible controllers for IBM-type ST506 hard drives. For example, there's an ad on page 111 in the July *A+* from Perlin Electronics. At $195 for the controller plus about $400 for a 40 Meg drive it beats the SCSI options by a bunch.

Bob Durst
Corvallis, OR 97333

Why does everything cost twice as much or more for Apple type hardware than IBM? You mention a 20 Meg hard drive for the Apple II for $650. I can get a Seagate 30 Meg for IBM types for less than $300. The same holds for floppy drives and many other hardware products. I really would like to see a reasonable discussion as to why the free market competitive environment is so effective in the IBM world and virtually non-existent in Apple land. Where are the Apple clones? Finally, how long will Apple continue to embarrass itself with a chintzy 90-day warranty?

William Ingersoll
Shalimar, Fla.

Please—compare oranges to oranges. The difference between the $300 IBM drives and the $650 Apple II drives is that with the Apple II drive you get a controller card, a finished cabinet, a power supply, a cable, and disk management software. All you get with the $300 IBM drive is an unmounted hard disk assembly and an instruction sheet that shows how to install it into the IBM case. A 20 Meg IBM-type drive with controller and cabinet runs about $400-$450 for a 65-msec access time drive (read "slow"). In most cases you'd still need to upgrade your operating system software (MS-DOS is sold separately) and your power supply. IBM-type drives are indeed generally cheaper than Apple II compatible drives, but the real difference is far less than the perceived difference.

If you insist on trying to save the difference, you can, as mentioned above, get a controller that allows hooking an IBM-type drive to an Apple II from a company called Perlin. We have received two letters from readers who have purchased this controller—the opinions expressed ranged from negative to extremely negative. Complaints revolved around the difficulty of getting the setup to work and on a lack of support from Perlin.

As to why competition isn't as fierce in the Apple II kingdom as in Messdosistan, it has to do with a number of things. Obviously, Messdosistan has a much larger population than we do. The people who control investment capital tend to live in Messdosistan and are pretty parochial about it—they think the Apple II kingdom is small and dying out. They're afraid to invest any money here. Apple's market positioning of the II encourages their discouragement.

The companies that did attempt Apple II clones generally made the mistake of copying Apple's ROM code and Apple's lawyers managed to shut them down. The one company that didn't copy Apple's ROM and that got its own Basic (Applesoft) license from Microsoft, however, Video Technology, has done quite well with its Laser series of Apple compatibles, which provide more functionality at a lower cost than Apple's own computers. They're the Compaq of the Apple II kingdom.

Apple's 90-day warranty is less than the standard warranty in Messdosistan. They really don't have any business reason to match the norm, however, unless people start complaining about it. Try writing a letter to Apple's new Customer Satisfaction group (Apple Computer, Inc., 20525 Mariani Ave, Cupertino, CA 95014).

IIc hard drives

Contrary to your statement in last month's issue that IIc hard drives won't work with a IIgs (page 4.48), the fact is, they do.

I used a ProApp 20 for about three years with my IIc and last year upgraded to a IIgs. I daisy-chained the hard disk to the 3.5 drive and it worked. By setting the control panel appropriately, you can even boot from the hard disk. If anyone would like to more about this they can reach me on GEnie (J.KLINE) or call my bulletin board, WESTEX // BBS, 806-796-1238.

Joseph Kline
Lubbock, Texas

Hard disk notcher

I know you can notch a floppy disk and flip it over to get at extra 143K. Can I notch my Sider hard drive, flip it over, and get another 10 megabytes of storage?

Doug Smith
Long Beach, NC

*I had Dennis try it. He reports he got 10 megabytes **less** storage.*

Bernoulli drives

Since you are recommending hard drives now (July 1988, pages 4.45-4.46), what about the various removable media drives? I've written Jasmine about using their MegaDrive with an Apple IIgs and an Apple SCSI card; as you indicated, they claim this combo doesn't work. I haven't asked any other manufacturers. The ads I've seen indicate that the data cartridges come pre-formatted (for HFS, I assume). Could they be reinitialized for ProDOS?

If so, this seems like the most viable "mass storage" system. A Bernoulli system allows back-up and immediate reuse (no need to reformat a crashed disk, just plug in the copy and go); infinite expansion in 20 Megabyte chunks without butting heads with ProDOS volume size limitations; and for those who have to worry about such things, lock-it-up style security. You also don't have to worry about head crashes and parking, something that caused a lot of grief to several of my (even if they are MS-DOS) friends.

The cartridges I've seen run from $18 to about $60 a shot and the Bernoulli drives themselves average under $1,200 list. While this is a bit more expensive than a hard disk, you can always add more cartridges instead of buying a bigger, costlier hard disk when yours (inevitably) fills up. A real boon for harried sysops, CPAs, and club librarians.

On another topic, FORTH programmers with a IIgs should check out *GS16FORTH*. It has no licensing fees or royalties. I've even used it to write New Desk Accessories. The manual is sparse and bit disorganized (they assume you know the language or have a good learning text available), but relatively complete.

Daniel Morris
San Vito Air Station, Italy

We don't have any experience with Bernoulli drives—the relatively high cost compared to standard hard disks has always scared us off. But you make some good points. Does anyone out there know anything about using these drives with an Apple II?

***GS16FORTH** comes in three pieces, the main package and two optional packages. Each piece can be purchased with an on-disk manual (the cheaper version) or with a hardcopy manual. You can also buy the whole works at once at a special price. The main package is $29.95/$39.95, an optional toolbox support package is $29.95/$39.95, and a floating point package is $9.95/$16.95. The whole works is $57.50/$82.95 and shipping is $1.50/$3.00 (GSF, 1529 Torre Ct, San Jose, CA 95120).*

Speaking in tongues

Which 6502 assembler do you recommend? Where can I buy Apple Pascal? Do you know of a COBOL or C compiler for the IIc?

Carlos Diuk
Capital Federal, Argentina

*The four primary assemblers available for the 6502 are **Merlin Pro, LISA, ORCA/M,** and the **S-C Assembler.** All support 6502, 65C02, and 65802 instructions; all but **Merlin Pro** additionally support 65816 instructions. The **S-C Assembler** is unique in that S-C Software sells, at extra cost, a number of cross-compiler modules for it that allow you to develop software for a broad range of microprocessors using an Apple II.*

*Each of the four uses slightly different syntax and is stronger than the other three in some areas. Personal preference plays a large role in determining which is "best". I use the **S-C Assembler,** Dennis uses **Merlin Pro;** we'd probably be just as happy with one of the others if we had learned the other first.*

*If you are planning to migrate to a IIgs eventually, you might like to start with an assembler that can generate ProDOS 16 "OMF" (Object Module Format) program files. There are versions of **LISA (LISA816)** and **Merlin (Merlin816)** that will generate these files and that will run on a 128K IIe or IIc as well as a IIgs **(Merlin 816** requires that you replace your IIe/IIc microprocessor with a 65802).*

***ORCA/M** also comes in a version that can generate OMF files, **ORCA/M GS,** but it will only run on a IIgs. Also in the IIgs-only category is the **Apple Programmer's Workshop,** sold by the Apple Programmer's and Developer's Association, which includes an assembler based on **ORCA/M.** A feature of these two programs is that they support installation and use of other languages, in addition to the assembler. They use a library format that allows linking together OMF files originally written in different languages. (At least, that was the original idea, but it seems to be getting lost in the implementation; for example **APW C** uses lower case names for variable segments. But the assemblers default to upper case. And the linker, the program that combines all this stuff, is case sensitive.)*

***ORCA/M** seems to be developing faster than **APW. ORCA/Pascal** is available now from the publisher, Byte Works, and **ORCA/BASIC** is under development. At AppleFest, Byte Works announced a new graphics-based desktop that allows you to edit and debug programs written in any of its languages.*

*Apple's releases for **APW,** on the other hand, have thus far been limited to an assembler and **Apple/Megamax C.** There is some concern in the developer community that Apple has abandoned the **Apple Programmer's Workshop** in favor of Macintosh-based IIgs programming tools—earlier this year Apple announced a **Macintosh Programmer's Workshop** (MPW) version of IIgs C. An **MPW** IIgs assembler is also under development. However, Jean-Louis Gassee said at GEnie's conference that the **MPW** tools were written to encourage Macintosh developers to write for the IIgs, not to encourage IIgs developers to buy Macintoshes. He said the **MPW** tools would not detract from Apple's efforts in native IIgs languages. Nonetheless, nearly two years after introduction, Apple has yet to provide a high-level language for IIgs owners other than **APW C,** which is a real slow-poke at compilation and linking. Of course, we're still waiting for a true ProDOS 16, too.*

*TML Systems offers **APW**-compatible versions of its **TML Pascal** and **TML Basic.***

***Apple Pascal** is available through APDA.*

*The **C** language is also available for the IIe and IIc, in several different versions, from a company called Manx. **Apprentice C, C'Prime,** and **Aztec C65-d** are DOS 3.3-based versions; **Aztec C65-d** is ProDOS-based.*

*The only versions of **COBOL** we know of for the Apple II family would require a CP/M capability, which you could add to your IIc with Applied Engineering's ZRAM or Cirtech's CP/M Plus system for the IIc. The expensive version is **Microsoft COBOL,** a cheaper version is Ellis Computing's **Nevada COBOL,** which is mentioned in a following letter.*

Here are the relevant addresses:

S-C Assembler		S-C Software Corp
ProDOS	$100.00	2331 Gus Thomasson, #125
DOS 3.3	$100.00	Dallas, TX 75228
both	$120.00	214-324-2050
Merlin Pro	$ 99.95	Roger Wagner Publ. Co.
Merlin816	$124.95	1050 Pioneer Way, Suite P
		El Cajon, CA 92020
		619-442-0522
LISA 2.6		HAL Labs
(DOS 3.3)	$ 25.00	18942 Dallas
LISA816 V5.0	$ 75.00	Perris, CA 92370
		714-359-8480
ORCA/M	$ 99.95	Byte Works, Inc.
ORCA/M GS	$ 69.95	4700 Irving Blvd NW, #207
ORCA/Pascal	$125.00	Albuquerque, NM 87114
ORCA/Desktop	$ 60.00	505-898-8183
Desktop+Pascal	$150.00	
APW	$100.00	APDA
APW C	$ 75.00	290 SW 43rd St
APW debugger	$ 15.95	Renton, WA 98055
MPW	$200.00	206-251-6548
MPW IIgs tools	$ 50.00	
MPW IIgs C	$150.00	
Apple Pascal	$ 75.00	
TML Pascal	$125.00	TML Systems
TML Basic	$125.00	8837-B Goodby's Executive Dr
		Jacksonville, FL 32217
		904-636-8592
Apprentice C	$ 19.00	Manx Software Systems
C'Prime	$ 75.00	1 Industrial Way
Aztec C65-d	$199.00	Eatontown, NJ 07724
Aztec C65-c	$299.00	201-542-2121

Apprentice C

I use a $19 compiler from Manx Software Systems called *Apprentice C* (DOS 3.3 only). It's full Kernighan & Ritchie with lousy docs, but, like Integer Basic, you can do an astounding amount of good with it. Do any other ***Open-Apple*** readers use it? Has anyone added bit-fields and related operations?

Do you know of any way to patch *VisiCalc Advanced Version* so it will run on an enhanced IIe or a IIc without MouseText problems?

Donald Drews
Brown Deer, Wisc.

*Dennis owns an unprotected DOS 3.3 copy of **VisiCalc Advanced Version** that was sold directly by Software Arts before they were purchased by Lotus. It works with MouseText. We haven't heard of any patches for your earlier, copy-protected, VisiCorp version. The other option is to fix your computer so you turn MouseText on and off (see Feb 1987, page 3.7).*

Manx has added bit-fields and related operations, but you have to buy their expensive versions of C to get them.

Cheap languages

I suspect there are a number of people who are interested in learning new computer languages but who can't justify the cost of the high-priced packages. I wish that I had known about the sources available when I first started exploring new languages. Here is a sample of what can be obtained for less than $50.

FORTRAN, COBOL, Pascal, and C, are all languages that are well known and are fairly common. Furthermore, most of them are popular on microcomputers. Even though FORTRAN and COBOL are more often thought of as belonging on mainframes, they are also available for many small computers, including Apples, if the Apple has a CP/M card installed.

There is a variety of sources for CP/M cards. I bought mine from a discounter who sold the Applied Engineering Z-80 Plus, which comes with its own operating system, a CP/M workalike called *CP/AM*. I have seen ads for it recently for around $100. That is the largest single expenditure required. The language systems are all much less expensive.

It is also possible to get CP/M cards for under $40. The main problem with these is that they rarely come with an operating system. There are some public domain CP/M-type systems around, but you will need a friend who has a running system to get yours up and running.

CP/M is very different from either DOS 3.3 or ProDOS. On the other hand, if you have any experience with MS-DOS you'll find learning CP/M pretty simple. MS-DOS was a take-off of sorts on CP/M. Get a few good reference books at your local bookstore because the documentation that comes with the CP/AM system is rather sparse. A reference such as the *CP/M Bible* by Waite and Angermeyer is a sound investment.

There are some additional things you may want to include that will make things easier. A 64K machine seems to be sufficient for most, if not all, of the languages I have found. But a RAMdisk and 3.5 inch disks help to speed everything up and allow you to keep all related files on the same disk. Newer versions of CP/M written for Apple IIs support these devices.

Now to the languages. The company with the most low-cost CP/M language packages is Ellis Computing (5655 Riggins Court, Suite 10, Reno, NV 89502 702-827-3030). I have used their *Nevada FORTRAN* and *Nevada COBOL*. They also have produced Nevada versions of Basic, Pascal, and Pilot.

Nevada FORTRAN is a subset of FORTRAN IV. It comes with a manual of which roughly 170 pages are devoted to the language and the way it is implemented under CP/M. An additional 50 pages cover the assembler module and its use. An 8080/Z-80 assembler is included in the package. No tutorials are supplied, but there are several example programs listed for both the FORTRAN section and the assembler section. If you want to learn FORTRAN with this package you would do well to get at least one good textbook/tutorial for the language. *Nevada FORTRAN* includes several extensions to the ANSI standard, but also omits several ANSI standard components such as double precision and EQUIVALENCE statements.

Naturally, you shouldn't expect full mainframe capability on a 64K system. On the other hand, this package provides a great deal of power for the money. When you master this system you will not need much additional work to feel at home with a full implementation.

Nevada COBOL sold for about $40 but unfortunately has been discontinued. It appears to me to be a subset of COBOL 74. The 170 page manual contains a brief introduction to the language, a short primer, and several example programs. Once again, you will be best off if you get a good textbook/tutorial to use with this version.

If you are going to use the Ellis packages, you will want a text editor of some kind. Ellis sells an EDIT program that is considerably better than the primitive editing programs that come with the CP/M system (ED or TED). There are other editors that I prefer, but this one is not at all bad and has several desirable features.

When it comes to Pascal, everyone has probably heard of Borland International's *Turbo Pascal*. It is a very good, fast, forgiving system. It frequently sells at a discount for less than $40, although the latest prices that I have seen are slightly higher. It comes with a 375-page reference manual (some of which is given over to MS-DOS commands) that covers the *Turbo* system, including the editor; the Pascal implementation (with numerous examples); CP/M information, differences between *Turbo* and *UCSD Pascal*, and several appendices covering such topics as installation for specific hardware systems, compiler directives, errors, and so forth.

The editor that comes with the *Turbo Pascal* package is good enough to use for a lot of things, not just writing Pascal programs. I have used it instead of the Ellis editor for FORTRAN and COBOL. It is *Wordstar*-based, so if you are familiar with that command structure you will feel right at home. If you don't like the key mapping, you can change it to whatever you want.

If you want to learn C, I really doubt if there is a bargain to match the package available from Mix Software (1132 Commerce Drive, Richardson, TX 75081 214-783-6001). For under $40 you get the language, linker, and compiler system; a split-screen editor; and an assembler. The deal is unbeatable. The system comes with a 430-page manual that includes both tutorial and reference sections. It appears to be a full-featured, standard implementation of the Kernighan and Ritchie C compiler, suitable for development systems used by beginning- to intermediate-level programmers. There are a few extensions to the standard and only one restriction.

The editor Mix gives you is so good I use it for all the programs I write under CP/M. It has even more features than the *Turbo* system and also follows the *Wordstar* protocol. In fact, the editor is worth the price of the whole package. This software was voted a Best Buy by *Computer Shopper* magazine and with good reason. It would be worth buying a CP/M card just so you could run it.

For a minimum initial cost you can explore a host of new languages. If you enjoy mapping new territory, if you want to root around in the world of computer languages, or if you just want to keep your hand in with some of the languages you once learned and have nearly forgotten, you can do what you want, for not much money, on an Apple II.

Michael J. Paris
Atkinson, Neb.

CP/M kick start

I recently acquired a Z-80 card and am interested in learning about CP/M and obtaining some CP/M software. I was wondering if you could recommend a good CP/M manual and a good source of CP/M public domain software. The titles of some commercially available CP/M packages would also be helpful.

Michael Borkum
Chestnut Hill, Mass.

*We published "A CP/M Primer" right here in **Open-Apple** back in June 1985, pages 1.44-1.45. CP/M is waning as far as new systems are concerned, but there are a lot of older systems still in daily use and software is available. The publisher of **Wordstar**, perhaps the most widely-used CP/M program, recently updated that program to version 4.0.*

Note that CP/M runs on a great many different machines that all use different disk formats. You must be sure that any software you get is on Apple-CP/M-format disks. You won't be able to use disks in other formats. Since the Apple II, believe it or not, is one of the most popular CP/M machines ever made, you shouldn't have too much trouble finding disks in the right format. And there are places that will convert disks from one CP/M format to another for a fee.

*See the previous letter for a book recommendation. Dennis recommends **The Osborne /McGraw-Hill CP/M User's Guide**, 3rd Ed, by Thom Hogan ($19.95, Osborne/McGraw-Hill, 2600 Tenth St, Berkeley, CA 94710) and **The CP/M Handbook** by Rodnay Zaks ($15.95, Sybex, 2021 Challenger Drive, #100, Alameda, CA 94501). There are hundreds of public domain CP/M programs available. A good place to start is in the CP/M area on GEnie or another of the national online services. See "Downloading CP/M programs" in our June issue, page 4.39, for more information on this.*

Blazing Applesoft

I first learned about the *Beagle Compiler* when you wrote about it in February 1987 (page 2.97). Working with the compiler is an absolute joy. It opens up whole new programming vistas for us Applesoft die-hards. It's like strapping five Saturn V booster rockets to your humble Applesoft code. ProDOS-based Applesoft programs that used to sputter along now roar from RUN to END in record time.

The compiler gives you so much power that you have to spend your time thinking of ways to give your computer more things to do at the same time—a dream come true. You can let your imagination run wild, knowing that there is at least a possibility of putting your ideas to work in Applesoft.

Not that all programs benefit a lot from being compiled. Some programs—typically those that rely on a lot of floating point operations such as trig functions, log functions, division, and good

old RND—don't show any change in speed. But the programs that do benefit from the compiler benefit in a big way. We're talking about gains in speed of five to fifteen times. That's like boosting the Apple IIe's 1 megahertz clock to 5 to 15 megahertz.

Phil Shapiro
Washington, D.C.

The important point here is that in many cases you can do much more for the speed of a computer by fine tuning the software than you can by doubling or tripling the speed of the hardware. Entirely too much emphasis is put on processor speed in the computer community today, not nearly enough on software speed.

Incidentally, one of the best examples of the this-is-progress? syndrome is floating point math. Although the ***Beagle Compiler*** *doesn't speed up Applesoft's abilities, raw 8-bit Applesoft does floating point calculations about four times faster than the 16-bit SANE toolbox in the IIgs (see "Apple IIgs Compiler Timings," by Ken Kashmarek, in the June 1988* ***Call - A.P.P.L.E.****, pages 19-26). If fast floating point on an Apple IIgs is your desire, the high-level programming language of choice still seems to be Applesoft.*

Basic.system.80

You guys really amazed me with your answer to Larry Jorgensen's question about having Basic.system startup in 80 column mode rather than 40 ("Printing revisions, page 4.38). From the Applesoft prompt, just type:

```
BLOAD BASIC.SYSTEM,A$2000,TSYS
POKE 8304,00
POKE 8305,195
BSAVE BASIC.SYSTEM,A$2000,TSYS
```

This changes a JSR HOME to a JSR $C300 in Basic.system's initialization routine and starts up 80 columns.

Robert Brady
Haverstraw, N.Y.

Initializing Applesoft

I am writing a program in assembly language that counts the number of words in a TXT file. I store the number of words as a two-byte hexadecimal number but want to print it as decimal. I decided to use Applesoft's LINPRT ($ED24) routine to do this. This worked perfectly when I saved the resulting program as a BIN file and executed it from Basic.system.

Then I turned the BIN file into a SYS file so that I could put the file on my word processor disk and quickly switch back and forth between the two programs. When I run the program as a SYS file, the first time that LINPRT is called either garbage is printed or the program hangs. If it doesn't hang, further calls to LINPRT work ok. The program also works ok if I run Basic.system and then run my SYS file. Going to my program directly from my word processor or PRODOS doesn't seem to work, however. Do you know why this is happening?

Chris Younger
Yarrawonga, Vic

If you want to use an Applesoft routine, you'd better make sure Applesoft is initialized before you start. Basic.system does this for you. Without Basic.system, you have to do it yourself.

Initializing Applesoft is a little tricky. One part of the initialization routine clears the stack, so you can't call it with a JSR and expect control to return to you. You should also take care to have nothing stored in the stack when you make the call. Basic.system, and DOS 3.3 before it, solve the problem by putting a return address in the Apple's "I/O hooks" at $36-39. After Applesoft is finished with its initialization, it tries to put its ")" prompt on the screen. That's your opportunity to regain control of the computer. Here's some example code:

```
2000: A5 36     LDA $36    save value now
2002: 8D 15 20  STA $2015     in output hook
2005: A5 37     LDA $37
2007: 8D 16 20  STA $2016

200A: A9 17     LDA #17    put $2017 in
200C: 85 36     STA $36       output hook
200E: A9 20     LDA #20
2010: 85 37     STA $37

2012: 4C 00 E0  JMP $E000  initialize Applesoft
2015: 00 00     .DA 0000      storage space
2017: AD 15 20  LDA $2015  replace original
201A: 85 36     STA $36       output hook
201C: AD 16 20  LDA $2016
201F: 85 37     STA $37
```

Exponential squeezing

To save space in one or two line programs, you can use scientific notation. For example, FOR A=1 to 6E3 is the same as FOR A=1 to 6000. For a loop that runs virtually forever, try FOR A=0 to 9E9.

W.J. Currie
Mordialloc, Vic

Videotape titles

IBM has it, Amiga has it, Apple promised it!

I want a system that can put high-quality, genlocked, lettering over live action scenes shot on videotape. I've been reading all I can about the Apple IIgs but I still haven't seen even a hint of it. Is there such a system for the IIgs yet?

Bob LeBar
Hartsdale, N.Y.

We don't know of a system, but we'll put our subscribers on the lookout for one.

Formatter for Basic.system

I have investigated several possible sources you sent me for a way to reliably format blank ProDOS disks from within Basic.system. After corresponding with Beagle Bros and Living Legends, I purchased Glen Bredon's *ProCMD* package ($25) to find that the FORMAT command would only work on slot 6, drive 1. I wrote back to him and within three weeks had a revision, which works on both 5.25 and 3.5 drives. It works by adding the following command to Basic.system:

```
FORMAT volume.name,Sn,Dn
```

The search has been long and difficult enough to be of interest to ***Open-Apple*** readers.

Peter Davis
Kent, England

Statistics, part IV

I'm another statistician who carries on his business with an Apple IIe. The majority of my applications involve multivariate procedures such as principal components, factor analysis, multidimensional scaling and multiple regression. As one of your readers pointed out, these involve many subscript manipulations and a lot of these are best handled with matrix algebra techniques. (Matrices are two-dimensional arrays.) I am more concerned with ease of writing programs than run time because I write a large number of small programs for manipulating these arrays in connection with various statistical operations.

I use Microsparc's *Ampersoft*, which provides a set of macros to be used in conjunction with Applesoft. For instance, you can multiply two matrices together with a single command as compared with the seven or eight commands ordinarily required in Basic. Matrix inversion, usually an extensive subroutine, is also a single command. In addition, *Ampersoft* treats these arrays as binary files rather than text files and loads or saves them with a single command. Other features include print formatting and sorting.

While not in the same league as *Gauss*, used on IBM-compatibles, it covers a lot of territory and is a lot cheaper. In fact, it has been available since 1982, making it one of the world's better kept secrets. For those who are involved with matrix applications, the book *Compact Numerical Methods for Computers: Linear Algebra and Function Minimization*, by J.C. Nash, a Wiley publication, may be of use. It contains a number of algorithms, given in such detail that converting them into Basic is practically automatic.

J. Edward Jackson
Rochester, N.Y.

Microsparc's address is 52 Domino Drive, Concord, MA 01742.

Open-Apple

[redacted]

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